NATIONAL PETROLEUM NEWS

JULY 1992

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NATURAL GAS

- *Dawn of a New Era*
- *Cardlocks and CNG*

Merchandising Snacks

Waring Oil

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Editor's Viewpoint

What is a natural gas flame doing on the cover of a news journal in the petroleum marketing industry?

At first glance, it would seem that this symbolic representation of the natural gas industry would be more appropriate as a cover illustration for one of the journals serving that sector of the energy market. I realize, too, that giving such a big play in our *NPN* pages to a product that has been a no-holds-barred competitor (to say the least) to fuel oil marketers will be disconcerting to readers involved in that business.

But we can't turn back the clock, either at *NPN* or in the petroleum marketing industry. Natural gas, like it or not, is at the threshold of becoming a major force in energy markets throughout the world.

As West editor Mark Emond notes in this month's cover report, the natural gas industry is being decontrolled, and the government is apparently determined "to propel gas into a much enlarged energy future—into the transportation future, too."

Why the big push behind natural gas? It's certainly getting plenty of attention these days, more so than other alternative fuels. There are good reasons for this, including abundant supplies and an in-place production and distribution network. As Mark points out in his report, domestic reserves of crude oil are declining and prospects are not good, while domestic reserves of natural gas are rising and "the future is bright."

Natural gas is benefiting greatly from deregulation and the "unbundling" of outmoded marketing practices. New players—independent marketers, brokers, pipeline and producer affiliates—are jumping into the field at an accelerated pace. Most of all, environmental concerns and other factors are opening up new opportunities for petroleum marketers, as you will see from the reports filed by Mark and staff reporter Phil Shook in this issue.

Some would argue that oil and gas don't mix well in a marketing sense. Nonsense! Savvy marketers know they're not just in the petroleum supply business; they're in the transportation fuel business and the future lies in developing the right mix of different fuels that customers—and the U.S. government—will require. Petroleum will continue to be a mainstay of the transportation fuel industry, but so too, apparently, will natural gas.

A warm welcome, please, for our new East editor, George Schultz. We are fortunate in having George available to step into this important assignment, where he succeeds J. Richard Shaner, our longtime East editor who passed away on April 26 [*NPN*—June '92, p3]. I'm sure many of you already know George. An award-winning journalist, he has 25 years of experience in business journalism; 14 of those with one of our sister publications, *Fuel Oil News*. George also founded another sister magazine, *Petroleum/C-Store Products*, in 1979. George brings a wealth of experience to his new assignment, and I'm confident he will be an outstanding addition to our *NPN* staff.

—Don Smith

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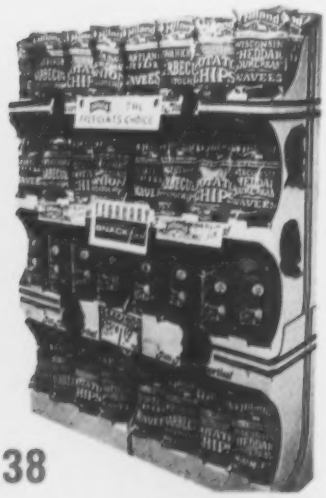

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Snack foods grow in popularity more each year, as sales figures will attest.

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Competition May Speed Up Electric Car Plans

That little speck on the horizon that has represented electric motor vehicles is looming larger, much larger. Skeptics will have to reconsider. A competition is growing between the United States and Japan to develop and market electric vehicles. (For another view, see *NPN*—March '92, p10.)

In Japan, it's the government that's providing leading economic support, which means it's serious business. In the United States, it's a consortium of private and public agencies, although it might not be long before the U.S. government sees the threat and decides to play a more active role, which it is already playing in automotive battery development.

The latest event is the creation of Calstart, a coalition of 41 utility, industry, government, education, labor and environmental organizations in California. Headquarters is Lockheed's 155,000-sq.ft. Burbank stealth fighter plant in Los Angeles, rent free for two years.

California is a logical place for this activity because it is the home of many aerospace and other high-tech companies and because introduction of 40,000 emission-free vehicles is mandated in the state annually beginning in 1998, and 200,000 annually by the year 2003. Emission-free means electric, barring an unforeseen breakthrough.

Among Calstart members are electric utilities of Los Angeles, San Francisco and San Diego; Lockheed; Allied-Signal Aerospace; Fairchild; General Motors; Hughes Aircraft; Kaiser Aluminum, Pirelli Armstrong tires; four municipal airports; the state of California; UCLA; UC-Davis; Lawrence Livermore National Laboratory; and Electric Power Research Institute.

Only a few months in formation, Calstart raised $14-million by early June and sought another $6-million to fund seven development projects in the next six years. Estimating the world market to be 850,000 vehicles in the year 2000, Calstart is shooting for 300,000 of it. Among the group's objectives are developing an advanced electric vehicle for worldwide marketing and a short-range neighborhood electric car.

In a project already a couple of years old, Japan's Ministry of International Trade and Industry (MITI), arguably the seat of the Japanese government, plans to have 200,000 electric vehicles on the road in Japan in the year 2000, together with a network of 2,000 charging and service stations, according to the Japan Management Institute's Marketing Data Bank (JMAR-MDB), the largest provider of business information in Japan, with an overseas office in San Diego.

MITI's program converts utilities, industries and agencies in stages to electric vehicles with tax breaks and direct government aid, culminating after the year 2000 in use of electric vehicles in all sectors.

MITI is working in four stages: 1991-'93, direct government aid and tax breaks to encourage use of electric vehicles by local firms and agencies; 1994-'97, utility and industry partial conversion to electric vehicles; 1998-2000, focus on public use, with heavy research to reduce the cost of production and improve service technologies; 2001+, transformation of Japan into a society using electric vehicles in all sectors.

On the battery front, the U.S. Advanced Battery Consortium, supported by the U.S. Dept. of Energy, recently chose the nickel metal hydride technology for accelerated development, calling it the beginning of a new phase in automotive history. Recharge time is said to be 15 minutes, compared with eight hours or more for conventional lead-acid batteries. Batteries supposedly would last the life of the car.

Membership includes GM, Ford, Chrysler and the Electric Power Research Institute. The consortium plans to make electric vehicles cost-competitive with gasoline-powered cars by the late 1990s.

Nobody imagines electricity dethroning gasoline in auto transportation, at least foreseeably, but with almost two-thirds of urban smog created by cars and trucks, the surge to convert to electric vehicles—if they prove out—might be surprising.

—Mark Emond

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

APRIL	Gasoline (All types)	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.143	$1.079	$1.268
Regions			
Northeast	1.177	1.092	1.317
North Central	1.108	1.066	1.234
South	1.120	1.046	1.232
West	1.189	1.137	1.314

**Data no longer collected or available on leaded regular.*
Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	5/30/91	5/29/92
Gasoline (Total)	216,378	214,369
Unleaded*	176,455	174,642
Jet Kerosine	35,481	39,132
Distillates	93,327	93,321
Residual	38,433	40,481

**Leaded regular prices no longer collected by Bureau of Labor Statistics.*
Source: American Petroleum Institute.

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Clean-Air Regs Threaten U.S. Refining Industry

The U.S. refining industry is seriously threatened by new clean-air regulations, just about everybody agrees, but neither refiners themselves nor federal environmental regulators can decide the likely extent of the damage. All appear to concur that a refinery will never be built in this country again.

Much of the uncertainty stems from the fact that the Clean Air Act (CAA) amendments of 1990 have not been fully interpreted and implemented by the Environmental Protection Agency (EPA), and state and local environmental agencies could adopt different or stricter standards.

These issues were aired at hearings of the Senate committee on energy and natural resources in May.

While supporting environmental cleanup in principle, oil industry representatives expressed particular concern that Congress and the regulatory agencies aren't giving due consideration, if any, to how much compliance will cost, how many refineries might have to be shut down, and whether there are more effective means to accomplish the clean-air goals.

The chief testimony of the oil industry was given by Roger C. Beach, chairman of the National Petroleum Refiners Assn., representing virtually all U.S. refiners. Beach, president of Unocal's Refining and Marketing Div., has since been elevated to president and chief operating officer of Unocal Corp.

U.S. refineries come to these precarious times already troubled, Beach said. Return on investments have been down for several years and are getting worse. Environmental costs are rising fast. Between 1981 and 1991, the number of U.S. refineries dropped to 184 from 314, or 41%.

Beach presented a new study by Wright Killen & Co., Houston consultants, showing 40 refineries recently closed, at risk or likely to fail. Together they represent 1,410,000 b/d of crude capacity. The details are as follows:

Beach also cited a study by Salomon Bros., investment bankers, early this year identifying 95 refineries, each with less than 50,000 b/d crude capacity, as clearly at risk.

	Number	Capacity (b/d)
Likely to fail	11	250,000
At risk	16	677,000
Recently closed	13	483,000
TOTAL	40	1,410,000

"It is clear," said Beach, "that smaller refineries will have the most difficulty, because they lack economies of scale, flexibility in processing and access to capital.

"One thing is fairly certain. You will not see new refinery capacity being added in the United States. The proliferation of costly environmental regulations has discouraged refinery development in the U.S. for the past decade, and new environmental regulations make future construction infeasible.

"If anything, the refining side of the oil industry will follow the lead of the exploration and production side and move increasingly to foreign soil."

The implications are causes for concern: the flight of capital overseas, significant job losses at home, increased dependence on energy supplied by unstable regions and a threat to national energy security, he said.

"Congress has recognized the need to address our dependence on foreign crude oil by establishing the Strategic Petroleum Reserve," Beach noted, "but that reserve is useful only to a nation with the domesticrefining capacity to convert the crude oil to products."

Roger C. Beach

The NPRA spokesman said California's latest reformulated gasoline regulations were adopted with little regard for cost effectiveness, which is bad enough, but "perhaps more disturbing is the inclination of states in other regions to adopt California's standards without regard for each state's individual air-quality problems

(Continued on page 20)

Fourth-Quarter Decline Hurts Refining Margins

A sharp drop in domestic refining industry profit margins during the fourth quarter of 1991 was enough to pull average profit margins below those of the previous year, according to a report by Wright Killen & Co. of Houston.

The fourth-quarter dip—a result of recessionary gasoline demand and a warmer than average winter—effectively nullified the industry's record performance for the first eight months of 1991.

Preliminary numbers for the first quarter of 1992 indicate a growing disparity between individual refineries, says Wright Killen president Dr. Calvin Cobb. High conversion refineries are performing profitably while less complex, cracking refineries continue to underperform, Cobb says.

First-quarter 1992 refining margins are low, but appear to have bottomed in January, Wright Killen reports. The most significant rebound is expected in the Los Angeles Basin, where product prices showed significant gains in February and March. According to the report, the margin rebound is "least impressive" amongst East Coast refiners.

"High conversion [coking] refineries, processing heavy sour crude oil, substantially outperform less complex refineries processing light, sweet crude such as West Texas intermediate," adds Horace Hobbs, manager of the *Wright Killen Refinery Profitability Report*. Hobbs says the disparity results from an unusually wide differential between light and heavy crude acquisition costs as well as the corresponding price differences between light products (gasoline) and heavy products (asphalt).

(Continued from page 19)
or a thorough cost-benefit analysis."

Beach said he knew state regulations were not the subject of the hearings, but "they are indicative of a regulatory process gone astray.... Clearly there is a need to restore common sense and reason as well as good science to environmental regulation."

In summary, Beach recommended that environmental regulations be based on scientific fact, that EPA set clean-air goals and let the industry meet them, and that a cost-benefit analysis be performed on all proposed regulations.

Feds don't know

Testifying for the Dept. of Energy, associate deputy undersecretary Vito Stagliano told the committee he doubted another refinery will be built in the United States, but the country would still have a more competitive industry than many others, with 40-60 refineries.

Asked if he thought independent refineries could survive, he responded, "I just don't know."

William Rosenberg, who administers the CAA at the EPA, said the agency believes independent refiners can make the required investments to meet CAA requirements, adding that they signed a negotiated agreement on reformulated gasoline. NPRA's Beach countered that refiners signed to remove uncertainty so that they could go ahead with necessary investments.

John H. Lichtblau, director of the Petroleum Industry Research Foundation, said sufficient consideration has not been given to removing the old cars that cause so much air pollution. He quoted the EPA as stating the dirtiest 6% of cars on the road emit 50% of total automotive hydrocarbons.

He said rising capital requirements and falling gasoline demand will force the closure and consolidation of some U.S. refineries. "The most endangered species are the small refineries, both those operated by large companies and those which often represent the only assets of the small companies.

"The most assured survivors are the 25 largest oil companies whose refining capacity ranges from 150,000-1,500,000 b/d and which together account for over 80% of total U.S. refining capacity. The small plants of the large companies are likely to be the first ones to be closed if their gasoline quality has to be changed, since these companies will want to concentrate their investments on the big plants where there is economy of scale.

"Many of the 100 or more small refineries will, of course, also survive, either because they supply niche markets or because they operate in areas exempted from the required quality changes in gasoline or because they will consolidate their operation with those of other small plants."

He criticized the ruling of the Federal Trade Commission that blocked consolidation of Conoco and Total refineries in Denver, stating that "if its ruling should cause the two refineries, or even one of them, to close, the competitive situation in Denver is likely to be worse than if they had been permitted to consolidate."

Lichtblau called for some limit on the right of states and regions to opt into strict regulations because of the uncertainty it causes. "If there is no further opting-in, about 35% of total U.S. gasoline demand may require reformulated [gasoline] by 2000," he said, "If there is maximum permissible opting-in, it could be 65-70%."

He said according to some industry estimates, $35-billion to $40-billion capital investments will be required in the 1990s to meet environmental requirements, in addition to other investments which amounted to $40-billion in the 1980s.

CNG Conversion, Testing Center Opened in Texas

Billed as the largest facility of its kind in the country, a Texas natural gas utility and a California testing facility have teamed up to open the Natural Gas Vehicle Technology Center in Austin, Texas.

Southern Union Econofuel Co., a unit of Southern Union Co. of Austin, and NGV Development Co., a Long Beach, Calif.-based federal testing laboratory, perform compressed natural gas (CNG) conversions, natural gas vehicle (NGV) maintenance and emissions testing at the center.

The facility has performed about 1,000 conversions over the last six months, company officials say.

The facility also offers customers a two-hose CNG dispenser with expansion to a two-pump island planned as demand increases, says Dean Lightfoot, manager of natural gas vehicles with Southern Union Econofuel. Lightfoot says domestic full size autos and trucks are the best candidates for conversion. "The economics don't work out as well with imported cars and trucks with smaller engines and higher fuel economy," he says.

Fleet customers that include Southwestern Bell, the Texas Highway Department and the Texas General Services Commission make up 90% of the center's business. Cost of a conversion to CNG at the center ranges from $2,800-$3,600, depending on the number of fuel cylinders that are required. Lightfoot says the center can perform a typical conversion in one day although more extensive conversions take longer.

"State laws are causing state agencies that are mandated to use alternative fuels to take action," Lightfoot says. He says the center currently has more than 200 vehicles from the state government sector alone, lined up for conversion. "We are aggressively marketing to the private fleet industry also," he says.

Lightfoot says the conversions can be financed through a fuel surcharge on CNG purchases and center uses the Fuelman card access system to track fuel usage and compute charges on an individual vehicle basis. He says the card system tracks vehicle maintenance, an added service attractive to fleet operators.

Atlas Supply to Become Warehouse Distributor

Atlas Supply Co., for years the automotive aftermarket arm of four former Standard Oil companies, is restructuring to become a national automotive parts warehouse distributor (WD). Its new president is Hugh D. Hanna, retired senior vice president of retail marketing for BP America.

The reorganization came about after Amoco and Exxon pulled out. The remaining two partners, BP America and Chevron, are in the process of organizing the company as a partnership of two.

Setting up Atlas as a programmed WD has been Hanna's vision for many years. As retail VP of BP, he was on the Atlas board for 14 years. He explains, "I had been trying to get others to make a change in this direction for a long time. The two remaining board members decided maybe they ought to make me live with what I'd been trying to get done."

Instead of each partner doing its own buying, Atlas will do it all. Headquarters will be Atlanta, with warehouses in Seattle, southern California and Ohio.

Hanna isn't looking outside Chevron and BP for now; in the future Atlas will be offered to others. "They could be partners or participants the way we're restructuring it now," he says, but not right away. "We're still in the process of absorbing the primary owners. My guess is that we wouldn't be in a position to look outside before the middle of 1993. We have so much to do between now and then."